

IN THE CLAIMS

Please substitute the following amended claims 1, 3-5, 7-10, 18-23, 26-27, 29, and 31-39 for their corresponding originally-filed claims. A copy of these claims showing the amendments is attached as Appendix B.

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~~1. (Amended) A shaped contoured structural member, comprising:
an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
an outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material; and
at least one intermediate layer having a ribbed structure connecting the inner section and the outer section.~~

3. (Amended) The structural member of claim 1, wherein the plurality of the layers in the inner section contains both a layer of a composite material and a layer of a metal-containing material.

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4. (Amended) The structural member of claim 1, wherein the plurality of the layers in the outer section contains both a layer of a composite material and a layer of a metal-containing material.

5. (Amended) The structural member of claim 2, wherein the metal-containing material is a metal alloy.

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7. (Amended) A substantially non-straight structural member, comprising:
an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
an outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material; and

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at least one intermediate layer having a ribbed structure connecting the inner section and the outer section.

8. (Amended) The structural member of claim 7, wherein the plurality of the layers in the inner section contains both a layer of a composite material and a layer of a metal-containing material.

9. (Amended) The structural member of claim 7, wherein the plurality of the layers in the inner section contains both a layer of a composite material and a layer of a metal-containing material..

10. (Amended) The structural member of claim 7, wherein the metal-containing material is a metal alloy.

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18. (Amended) A bent structural member, comprising:
an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
an outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material; and
at least one intermediate layer having a honeycomb structure connecting the inner section and the outer section.

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21. (Amended) A method for making a shaped, contoured structural member, comprising:
providing an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a shaped mandrel;
roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;
providing an section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material; and

connecting the inner and outer sections to the at least one intermediate layer.

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22. (Amended) The method of claim 21, including providing the inner section by roll wrapping the inner section over the mandrel.

23. (Amended) The method of claim 22, including providing the outer section by roll wrapping the outer section over the at least one intermediate layer.

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26. (Amended) The method of claim 25, further including constraining the outer section when connecting the inner and outer sections to the at least one intermediate layer prior to removing the mandrel.

27. (Amended) The method of claim 26, including constraining the outer section by roll wrapping at least one layer of a shrink-wrap material over the outer section.

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29. (Amended) The method of claim 27, further including providing at least one pressure distributor over the outer section.

31. (Amended) A method for making a shaped, contoured structural member, comprising:
providing an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substantially straight mandrel;
roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;

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providing an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

removing the mandrel;

modifying the shape of the inner section, at least one intermediate layer, and the outer section to a substantially non-straight shape; and

connecting the inner and outer sections to the at least one intermediate layer.

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33. (Amended) The method of claim 31, including modifying the shape and connecting the inner and outer sections to the at least one intermediate layer at substantially the same time.

34. (Amended) A method for making a shaped, contoured structural member, comprising:

providing an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a shaped mandrel;

roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;

providing an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

constraining the outer section with a shrink-wrap material;

connecting the inner and outer sections to the at least one intermediate layer; and

removing the shrink-wrap material and the mandrel.

35. (Amended) A method for making a shaped, contoured structural member, comprising:

providing an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substantially-straight mandrel;

roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;

providing an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

removing the mandrel;

modifying the shape of the inner section, at least one intermediate layer, and the outer section to a substantially non-straight shape;

constraining the outer section with a shrink-wrap material;

connecting the inner and outer sections to the at least one intermediate layer; and
removing the shrink-wrap material and the mandrel.

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36. (Amended) A shaped, contoured structural member made by the method comprising:
providing an inner section containing a plurality of contoured layers comprising a
composite material or a metal-containing material over a shaped mandrel;
roll wrapping at least one intermediate layer over the inner section, the at least one
intermediate layer having a ribbed structure;
providing an outer section over the at least one intermediate layer, the outer section
comprising a composite material or a metal-containing material; and
connecting the inner and outer sections to the at least one intermediate layer.

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37. (Amended) A shaped, contoured structural member made by the method comprising:
providing an inner section containing a plurality of contoured layers comprising a
composite material or a metal-containing material over a substantially straight mandrel;
roll wrapping at least one intermediate layer over the inner section, the at least one
intermediate layer having a ribbed structure;
providing an outer section over the at least one intermediate layer, the outer section
containing a plurality of contoured layers comprising a composite material or a metal-containing
material;
removing the mandrel;
modifying the shape of the inner section, at least one intermediate layer, and the outer
section to a substantially non-straight shape; and
connecting the inner and outer sections to the at least one intermediate layer.

38. (Amended) A shaped, contoured structural member made by the method comprising:
providing an inner section containing a plurality of contoured layers comprising a
composite material or a metal-containing material over a shaped mandrel;
roll wrapping at least one intermediate layer over the inner section, the at least one
intermediate layer having a ribbed structure;

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~~providing an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;~~

~~constraining the outer portion with a shrink-wrap material;~~

~~connecting the inner and outer sections to the at least one intermediate layer; and
removing the shrink-wrap material and the mandrel.~~

39. (Amended) A shaped, contoured structural member made by the method comprising:
providing an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substantially straight mandrel;

roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;

providing an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

removing the mandrel;

modifying the shape of the inner section, at least one intermediate layer, and the outer section to a substantially non-straight shape;

constraining the outer section with a shrink-wrap material;

connecting the inner and outer sections to the at least one intermediate layer; and
removing the shrink-wrap material and the substrate.

REMARKS

Claims 1-39 are pending in this application. Applicant has amended claims 1, 3-5, 7-10, 18-23, 26-27, 29, and 31-39 via the present Amendment to better comply with the Office's requirements.

Specification